



Home Energy Rating Certificate

443 241st Street
Verdi, MN 56164



**5 Stars Plus
Confirmed**

Uniform Energy Rating System

1 Star	1 Star Plus	2 Stars	2 Stars Plus	3 Stars	3 Stars Plus	4 Stars	4 Stars Plus	5 Stars	5 Stars Plus
500-401	400-301	300-251	250-201	200-151	150-101	100-91	90-86	85-71	70 or Less

Energy Efficient

HERS Index: 47

General Information

Conditioned Area:	3000 sq. ft.	HouseType:	Single-family detached
Conditioned Volume:	30248 cubic ft.	Foundation:	Conditioned basement
Bedrooms:	3		

Mechanical Systems Features

Air-source heat pump:	Electric, Htg: 8.5 HSPF. Clg: 15.0 SEER.
Heating:	Fuel-fired air distribution, Natural gas, 95.1 AFUE.
Water Heating:	Conventional, Electric, 0.95 EF, 80.0 Gal.
Duct Leakage to Outside:	0.00 CFM.
Ventilation System:	Balanced: HRV, 74 cfm, 96.0 watts.
Programmable Thermostat:	Heating: Yes Cooling: Yes

Building Shell Features

Ceiling Flat:	NA	Exposed Floor:	NA
Vaulted Ceiling:	U-0.021	Window Type:	U:0.30, SHGC:0.26
Above Grade Walls:	U-0.042	Infiltration:	
Foundation Walls:	R-33.0	Rate:	Htg: 153 Clg: 153 CFM50
Slab:	R-0.0 Edge, R-10.0 Under	Method:	Blower door test

Lights and Appliance Features

Percent Interior Lighting:	85.00	Range/Oven Fuel:	Propane
Percent Garage Lighting:	0.00	Clothes Dryer Fuel:	Propane
Refrigerator (kWh/yr):	691.00	Clothes Dryer EF:	2.67
Dishwasher Energy Factor:	0.46	Ceiling Fan (cfm/Watt):	0.00

The Home Energy Rating Standard Disclosure for this home is available from the rating provider.

REM/Rate - Residential Energy Analysis and Rating Software v12.99

This information does not constitute any warranty of energy cost or savings.
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Registry ID:

Rating Number:

Certified Energy Rater: Patrick O'Malley

Rating Date: 11/12/12

Rating Ordered For:

Estimated Annual Energy Cost

Use	Confirmed		
	MMBtu	Cost	Percent
Heating	27.0	\$378	19%
Cooling	1.8	\$49	3%
Hot Water	13.8	\$369	19%
Lights/Appliances	30.6	\$788	41%
Photovoltaics	-0.0	\$-0	-0%
Service Charges		\$360	19%
Total		\$1944	100%

This home meets or exceeds the minimum

criteria for all of the following:

EPA ENERGY STAR Version 2.5 Home

Building Knowledge, Inc.

PO Box 1376

Burnsville, MN 55337

952-944-5605

www.buildingknowledge.com

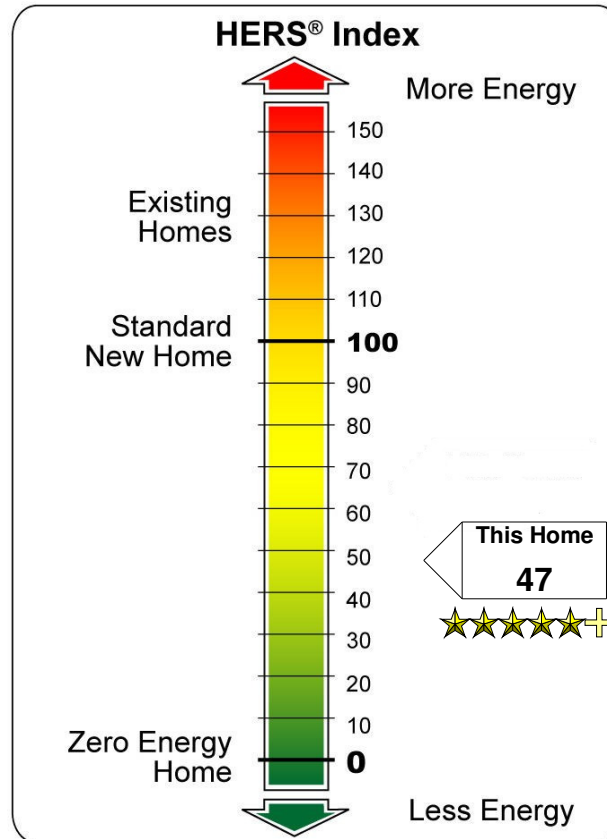
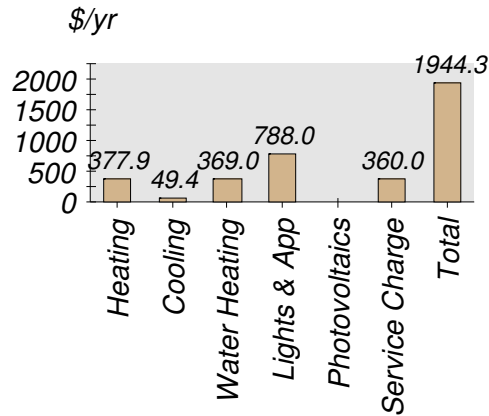


HOME PERFORMANCE WITH ENERGY STAR

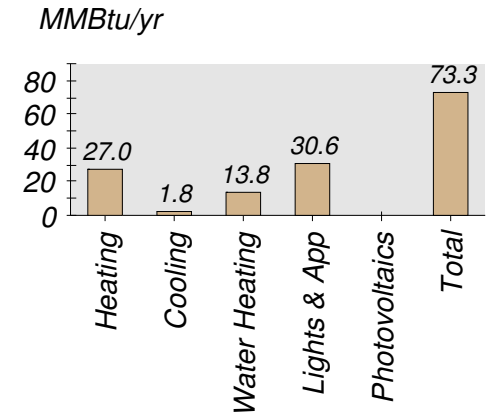
ENERGY RATING CERTIFICATE



Estimated Annual Energy Cost



Estimated Annual Energy Consumption



Address: 443 241st Street
Verdi, MN 56164

House Type: Single-family detached
Cond. Area: 3000 sq. ft.
Rating No.:
Issue Date: November 12, 2012
Certification: Verified

Annual Estimates*:

Electric(kWh): 13853
Natural gas(Therms): 194
Propane(Gallons): 72
CO2 emissions(Tons): 12
Annual Savings**: \$2184

* Based on standard operating conditions
** Based on a HERS 130 Index Home

Building Knowledge, Inc.

PO Box 1376

Certified Rater: Patrick O'Malley
Rater ID: 9377462
Registry ID:
Rating Date: 11/12/12



REM/Rate - Residential Energy Analysis and Rating Software v12.99

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BUILDING LEAKAGE TEST

Date of Test: 10/17/2012
Customer: Construction Partners

Test File: Construction Partners_Test 2_17OCTOBER12
Technician: Pat O'Malley
Project Number:

Building Address: 443 241st Street
Verdi, MN

Test Results

- Airflow at 50 Pascals:
(50 Pa = 0.2 w.c.) 153 CFM50 (+/- 181.6 %)
0.31 ACH50
 - Leakage Area: 8.4 in2 LBL ELA @ 4 Pa
 - Building Leakage Curve: Flow Coefficient (C) = 6.8 (+/- 854.8 %)
Exponent (n) = 0.797 (+/- 1.722)
Correlation Coefficient = 0.98586
 - Test Settings: Test Standard: RESNET Multi-Point Test
Test Mode: Depressurization
 - Accuracy Level: Reduced Accuracy Test
-

Infiltration Estimates

- Estimated Average Annual Infiltration Rate: 9.1 CFM
0.02 ACH
2.3 CFM per person
(using bedrooms + 1)
 - Estimated Design Infiltration Rate: Winter: 19.1 CFM Summer: 16.5 CFM
0.04 ACH 0.03 ACH
-

Cost Estimates

- Estimated Cost of Air Leakage for Heating: \$ 16 per year heating
- Estimated Cost of Air Leakage for Cooling: \$ 0 per year cooling

Date of Test: 10/17/2012 Test File: Construction Partners_ Test 2_17OCTOBER12

Building Information

Volume	29251
Surface Area	
Floor Area	3000
Height	12
# of Bedrooms	3
# of Occupants	2
Year of Construction	2012
Wind Shield	E

Location Climate Information

Ventilation Weather Factor	1.03
Energy Climate Factor	16.00
Heating Degree Days	8308
Cooling Degree Days	199
Design Winter Wind Speed	12.8 mph
Design Summer Wind Speed	15.0 mph
Design Winter Temp Diff	82 deg F
Design Summer Temp Diff	10 deg F

Heating and Cooling Cost and Efficiency Information

Heating Fuel	Heat Pump HSPF
Heating Fuel Cost	\$0.090/kwh
HSPF	9.00
Cooling Fuel Cost	\$0.090/kwh
Cooling SEER	17.0

Equipment Information

Type	Manufacturer	Model	Serial Number	Custom Calibration Date
Fan	Energy Conservatory	Model 3 (110V)		Default
Micromanometer	Energy Conservatory	DG700	1059-5	7/19/2012